

Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.

# Dayton® Propane Gas Convection Construction Heaters

## Description

Dayton Model 6BY71 is a 25,000 Btu/Hr construction heater intended for indoor or outdoor use. Model 6BY73 heater is a 80,000 Btu/Hr construction heater and model 6BY74 is a 200,000 Btu/Hr construction heater. Models 6BY73 and 6BY74 are intended for indoor use only. These heaters use propane gas for combustion and are intended for the temporary heating of well-ventilated buildings under construction, alteration, or repair. This heater should never be used in occupied dwellings. Products of combustion are vented into the area being heated.

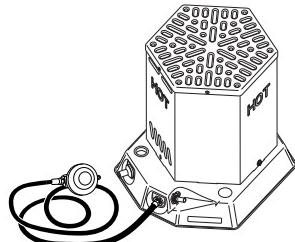


Figure 1 - Model 6BY71

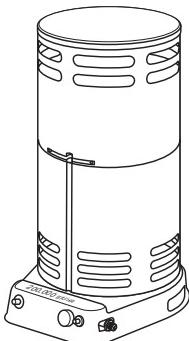


Figure 2 - Models 6BY73 and 6BY74  
(Model 6BY74 Shown)



## **⚠ GENERAL HAZARD WARNING**

**Failure to comply with the precautions and instructions provided with this heater, can result in death, serious bodily injury and property loss or damage from hazards of fire, explosion, burn, asphyxiation, carbon monoxide poisoning and/or electrical shock.**

**Only persons who can understand and follow the instructions should use or service this heater.**

**If you need assistance or heater information such as an instructions manual, labels, etc. contact the manufacturer.**

## **⚠ WARNING**

**Fire, burn, inhalation and explosion hazard. Keep solid combustibles, such as building materials, paper or cardboard, a safe distance away from the heater as recommended by the instructions. Never use the heater in spaces which do or may contain volatile or airborne combustibles or products such as gasoline, solvents, paint thinner, dust particles or unknown chemicals.**

## **Unpacking**

1. Remove all packing items applied to heater for shipment. Keep plastic cover caps (attached to inlet connector and hose/regulator assembly) for storage.
2. Remove all items from carton.
3. Check all items for shipping damage. If heater is damaged, promptly inform dealer where you bought heater.

# Dayton® Propane Gas Convection Construction Heater

## General Safety Information

Make certain you read and understand all warnings. Keep these instructions for reference. They are your guide to safe and proper operation of this heater. Safety information appears throughout these instructions. Pay close attention to them. Below are definitions for the safety information listed throughout this manual.

### **DANGER**

Under this heading, installation, operating and maintenance procedures or practices will be found that, if not carefully followed, WILL result in IMMEDIATE serious personal injury or death.

### **WARNING**

Under this heading, installation, operating, and maintenance procedures or practices will be found that, if not carefully followed, COULD result in severe personal injury or death.

### **CAUTION**

Under this heading, installation, operating, and maintenance procedures or practices will be found that, if not carefully followed, MAY result in minor personal injury, product or property damage.

**IMPORTANT:** Not every possible circumstance that might involve a hazard can be anticipated. The warnings in this manual and on tags or decals affixed to the unit are therefore not all-inclusive. If a procedure, work method, or

operating technique not specifically recommended by Dayton is used, you must make sure it is safe for you and others. You should also ensure that equipment will not be damaged or made unsafe by the operating or maintenance method you choose.

### **WARNING**

**Not for home or recreational vehicle use.**

### **WARNING**

**This product contains and/or generates chemicals known to the State of California to cause cancer or birth defects, or other reproductive harm.**

The heater is designed for use as a construction heater in accordance with ANSI Z83.7/CGA 2.14. Other standards govern the use of fuel gases and heating products for specific uses. Your local authority can advise you about these. The primary purpose of construction heaters is to provide temporary heating of buildings under construction, alteration or repair. Properly used, the heater provides safe economical heating. Products of combustion are vented into the area being heated.

We cannot foresee every use which may be made of our heaters. **Check with your local fire safety authority if you have questions about heater use.**

Other standards govern the use of fuel gases and heat producing products for specific

uses. Your local authorities can advise you about these.

### **Carbon Monoxide Poisoning:**

Some people are more affected by carbon monoxide than others. Early signs of carbon monoxide poisoning resemble the flu, with headaches, dizziness and/or nausea. If you have these signs, the heater may not be working properly. **Get fresh air at once!** Check for proper ventilation and have heater serviced.

**Propane Gas:** Propane gas is odorless. An odor-making agent is added to propane gas. The odor helps you detect a propane gas leak. However, the odor added to propane gas may fade. Propane gas may be present even though no odor exists.

Make certain you read and understand all warnings. Keep this manual for reference. It is your guide to safe and proper operation of this heater.

1. Install and use heater with care. Follow all local ordinances and codes. In the absence of local ordinances and codes, refer to the *Standard for Storage and Handling of Liquefied Petroleum Gas, ANSI/NFPA 58*. This instructs on the safe storage and handling of propane gases.
2. Use only propane gas set up for vapor withdrawal.
3. Provide adequate ventilation. Before using heater, provide at least a 108 in.<sup>2</sup> (700 cm<sup>2</sup>) (25,000 btu heaters), 2.5 ft<sup>2</sup> (0.232 m<sup>2</sup>) (80,000 btu heaters) or 6 ft<sup>2</sup> (0.557 m<sup>2</sup>) (200,000 btu heaters) opening of fresh, outside air.

# Models 6BY71, 6BY73 and 6BY74

## General Safety Information (Continued)

4. 25,000 Btu/Hr Models: For indoor and outdoor use.
- 80-200,000 Btu/Hr Models: For indoor use only. Do not use heater outdoors.
5. Keep heater away from strong drafts, wind, water spray, rain or dripping water.
6. Do not use heater in occupied dwellings, sleeping quarters, campers, tents, or any type of unvented or enclosed area.
7. Do not use heater in a basement or below ground level. Propane gas is heavier than air. If a leak occurs, propane gas may sink to the lowest possible level.
8. Keep appliance area clear and free from combustible materials, gasoline, paint thinner and other flammable vapors and liquids. Dust is combustible. Do not use heater in areas with high dust content.
9. Minimum heater clearances from combustibles:
  - 25,000 and 80,000 Btu heaters**  
Sides: 3 ft (91 cm); Top: 6 ft (1.83 m)
  - 200,000 Btu heaters**  
Sides: 3 ft (91 cm); Top: 7 ft (2.1 m)
10. Keep heater at least 6 ft (1.83 m) from propane tank(s).
11. Keep propane tank(s) below 100° F (37.8° C).
12. Before each use, check heater for leaks. Never use an open flame to check for a leak. Apply a mixture of liquid soap and water to all joints. Bubbles forming show a leak. Correct all leaks at once.
13. Use only the hose and factory preset regulator provided with the heater.
14. Check heater for damage before each use. Do not use a damaged heater.
15. Check hose before each use of heater. If highly worn or cut, replace with hose specified by manufacturer before using heater.
16. Do not alter heater. Keep heater in its original state.
17. Do not use heater if altered.
18. Locate heater on stable and level surface if heater is hot or operating.
19. Not intended for use on finished floors.
20. Never block any air inlet or air outlet openings of heater.
21. Do not use heater as a cooking device. Do not place objects on top of heater.
22. Do not leave heater unattended.
23. Never operate heater while sleeping or unattended.
24. Keep children and animals away from heater.
25. Always run heater with control knob at LO, MED or HI settings. Never set control knob between OFF, LO, MED or HI settings. Flashback may occur.
26. Never move, handle or service a hot or operating heater. Severe burns may result. You must wait 15 minutes after turning heater off.
27. To prevent injury, wear gloves when handling heater.
28. Never attach duct work to heater.
29. Turn off propane supply to heater when not in use.
30. Use only original replacement parts. This heater must use design-specific parts. Do not substitute or use generic parts. Improper replacement parts could cause serious or fatal injuries.
31. Always remove heater from propane tank after each use. Always store propane tank outdoors in a well ventilated space out of the reach of children. Never store propane tank in a building, garage, or any other enclosed area. Never store propane tank near high heat, open flame, or where temperatures exceed 100° F (38° C).
32. Keep all connections and fittings clean. Make sure propane tank valve outlet is clean. Check the rubber "O" ring on the heater inlet fuel connector for damage before each use. Replace if worn or damaged.

# Dayton® Propane Gas Convection Construction Heater

## Product Identification

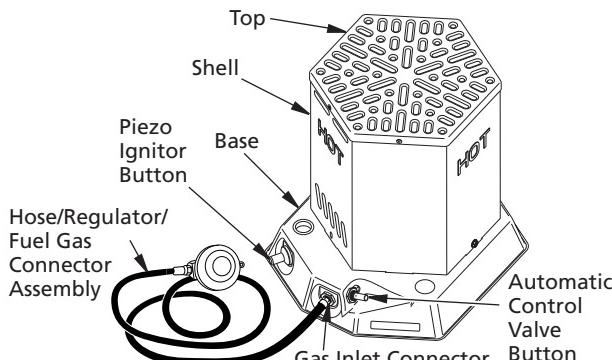
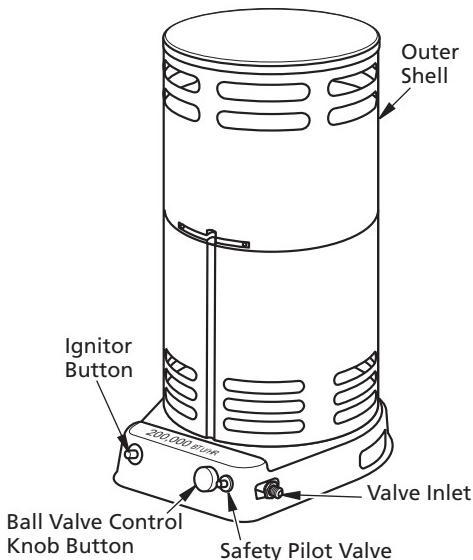


Figure 3 - 25,000 Btu/Hr Model (6BY71)

## Ventilation

### **WARNING**

Provide at least a 3 ft<sup>2</sup> (0.28 m<sup>2</sup>) opening of fresh, outside air for each 100,000 Btu/Hr of rating while running heater. If proper fresh, outside air ventilation is not provided, carbon monoxide poisoning can occur. Provide proper fresh, outside air ventilation before running heater.

Figure 4 - 80,000 (6BY73) and 200,000 (6BY74) Btu/Hr Models  
[200,000 Btu/Hr shown (6BY74)]

## Theory of Operation

**The Fuel System:** The hose/regulator assembly attaches to the propane gas supply. This provides fuel to the heater.

**The Ignition System:** The piezo ignitor lights the pilot.

**The Automatic Control System:** This system causes the heater to shut down if the flame goes out.

## Propane Supply

Propane gas and propane tank(s) are to be furnished by the user. Use this heater only with a propane vapor withdrawal supply system. See Chapter 5 of the *Standard for Storage and Handling of Liquefied Petroleum Gas, ANSI/NFPA 58*. Your local library or fire department will have this booklet.

The amount of propane gas ready for use from propane tanks varies. Two factors decide this amount.

1. The amount of propane gas in tank(s)
2. The temperature of tank(s)

# Models 6BY71, 6BY73 and 6BY74

## Propane Supply (Continued)

**25/80,000 Btu/Hr Models:** This heater is designed to operate with a minimum 20 lb. (9 kg) tank. You may need two or more tanks or one larger tank in colder weather. Use a 100 lb. (45 kg) tank for longer operation or in very cold weather. Less gas is vaporized at lower temperatures. Your local propane gas dealer will help you select the proper supply system.

**200,000 Btu/Hr Models:** This heater will operate on a minimum 40 lb (18 kg) propane tank but only for a very short time if control knob is in the lowest setting during mildly cool weather. At higher heat settings or during colder weather you may need two or more tanks or one larger tank. Use a 100 lb. (45 kg) tank for longer operation or in very cold weather.

Less gas is vaporized at lower temperatures. Your local propane gas dealer will help you select the proper supply system. The chart that follows shows the minimum number of 100 lb (45 kg) tanks needed to run the heater. Connect tanks together with a manifold.

**Smaller tanks can be used for limited run times but it is recommended to use larger tanks for optimum performance.**

| Average Temperature<br>At Tank Location | No. of 100lb<br>(45 kg) tanks |
|-----------------------------------------|-------------------------------|
| <b>25,000 Btu/Hr (6BY71)</b>            |                               |
| above 0° F (-17.8° C)                   | 1                             |
| below 0° F (-17.8° C)                   | 1                             |
| <b>80,000 Btu/Hr (6BY73)</b>            |                               |
| above 20° F (-6.7° C)                   | 1                             |
| below 20° F (-6.7° C)                   | 2                             |
| <b>200,000 (6BY74)</b>                  |                               |
| above 20° F (-6.7° C)                   | 2                             |
| below 20° F (-6.7° C)                   | 3                             |

## Specifications

### Model 6BY71

- **Rating:** 15,000 - 25,000 Btu/Hr (15,826 - 26,376 Kj/Hr)
- **Fuel:** Propane/LP Gas Only
- **Gas Supply Pressure to regulator:**  
Max. - Tank Pressure, Min. - 20 psig (137.9 kPa)
- **Regulator Outlet Pressure:**  
High - 15 psi (103.4 kPa), Low - 5 psi (34.4 kPa)
- **Ignition:** Piezo Ignitor
- **Minimum Ambient Temp. Rating:** 0° F (-17.8° C)
- **Fuel Consumption:**  
Pounds (kg)/Hr - Min 0.7 (0.32), Max 1.16 (0.53)

### Model 6BY73

- **Rating:** 40,000 - 80,000 Btu/hr (42,202 - 84,404 Kj/Hr)
- **Fuel:** Propane/LP Gas Only
- **Gas Supply Pressure to regulator:**  
Max. - Tank Pressure, Min. - 10 psig (68.9 kPa)
- **Gas Supply Pressure regulator out:** 25" W.C. (63.5 cm)
- **Ignition:** Piezo Ignitor
- **Minimum Ambient Temp. Rating:** 0° F (-17.8° C)
- **Fuel Consumption:** 1.9 - 3.7 lb/hr (0.86 - 1.68 kg/hr)
- **Fuel Orifice Port No.:** 1
- **Fuel Orifice Port Size:** 0.086" (2.18 mm)

### Model 6BY74

- **Rating:** 75,000 - 200,000 Btu/hr (79,129 - 211,101 Kj/Hr)
- **Fuel:** Propane/LP Gas Only
- **Gas Supply Pressure to regulator:**  
Max. - Tank Pressure, Min. - 15 psig (103 kPa)
- **Gas Supply Pressure regulator out:** 10 psig (68.9 kPa)
- **Ignition:** Piezo Ignitor
- **Minimum Ambient Temp. Rating:** 0° F (-17.8° C)
- **Fuel Consumption:** 3.5 - 9.3 lb/hr (1.6 - 4.2 kg/hr)
- **Fuel Orifice Port No.:** 6
- **Fuel Orifice Port Size:** 0.0320" (0.813 mm)

# Dayton® Propane Gas Convection Construction Heater

## Installation

### **⚠ WARNING**

Review and understand the warnings in the General Safety Information section, page 2. They are needed to safely operate this heater. Follow all local codes when using this heater.

### **⚠ WARNING**

Test all gas piping and connections for leaks after installation or servicing. Never use an open flame to check for a leak. Apply a mixture of liquid soap and water to all joints. Bubbles forming show a leak. Correct all leaks at once.

#### (6BY73) 80,000 AND (6BY74) 200,000 BTU/HR MODELS ONLY

### **⚠ CAUTION**

Never ignite and/or run this heater unless the shells are fully extended and locked into position.

## OUTER SHELL

**IMPORTANT:** When the heater is first removed from carton, the outer shell is in the down position. Protect hands before lifting outer shell. Never grasp bare metal without hand protection.

1. Care must be taken to protect hands during this step. Lift outer shell straight up as shown in Figure 5, until all three clips engage slots in lower shell. Screw holes will line up at this point.
2. Lock clips into place with 3 screws as shown in Figure 5. The heater must not be operated unless the outer shell is properly extended and fully locked into place.

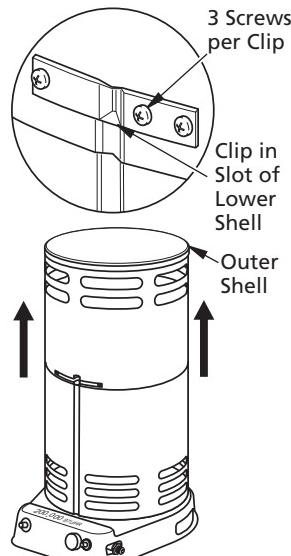


Figure 5 - Lifting Outer Shell  
(6BY74, 200,000 Btu/hr Shown)

## CONNECTING TO GAS SUPPLY

### **⚠ WARNING**

Test all gas piping and connections for leaks after installation or servicing. Never use an open flame to check for a leak. Apply a mixture of liquid soap and water to all joints. Bubbles forming show a leak. Correct all leaks at once.

#### (6BY71) 25,000 BTU/HR MODELS ONLY

1. Provide propane supply system (See *Propane Supply*, page 4).
2. Wrench tighten the fuel connector nut into the propane tank valve (See Figure 6). Turn fuel connector nut counterclockwise to tighten. Threads are left-handed.

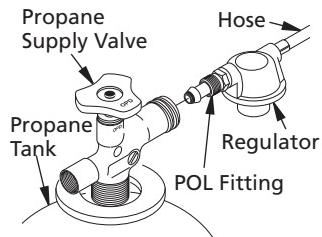


Figure 6 - Connecting Heater to Propane Tank

# Models 6BY71, 6BY73 and 6BY74

## Installation (Continued)

3. Connect hose to inlet connector (See Figure 7). Tighten firmly using a wrench.
4. Open propane supply valve on propane tank(s) slowly.  
**NOTE:** If not opened slowly, excess-flow check valve on propane tank may stop gas flow. If this happens, you may hear a click inside the regulator assembly, this is the check valve closing. To reset the excess-flow check valve, close propane supply valve and open it again slowly.
5. Check all connections for leaks. Apply mixture of liquid soap and water to gas joints. Bubbles forming show a leak that must be corrected.
6. Close propane supply valve.

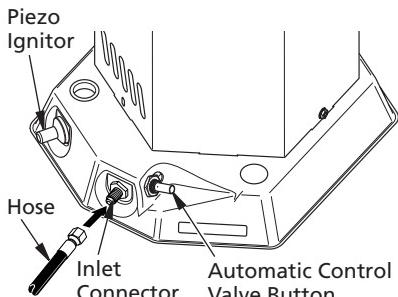


Figure 7 - Hose and Inlet Connector, Automatic Control Valve Button and Piezo Ignitor Button Locations

## (6BY73) 80,000 AND (6BY74) 200,000 BTU/HR MODELS ONLY

1. Provide propane supply system (See *Propane Supply*, page 4).
2. Connect fuel gas fitting on hose/regulator assembly to propane tank(s). Turn fuel gas fitting counter-clockwise into threads on tank. Tighten firmly using a wrench. **IMPORTANT:** Tighten regulator with vent pointing down. Pointing vent down protects regulator from weather damage.
3. Connect hose to the valve inlet. Tighten firmly using a wrench. You must use the regulator supplied with heater even if propane tank has one.
4. Open propane supply valve on propane tank(s) slowly.  
**NOTE:** If not opened slowly, excess-flow check valve on propane tank may stop gas flow. If this happens, you may hear a click inside the regulator assembly, this is the check valve closing. To reset the excess flow check valve, close propane supply valve and open again slowly.
5. Check all connections for leaks. Apply mixture of liquid soap and water to gas joints. Bubbles forming show a leak that must be corrected.

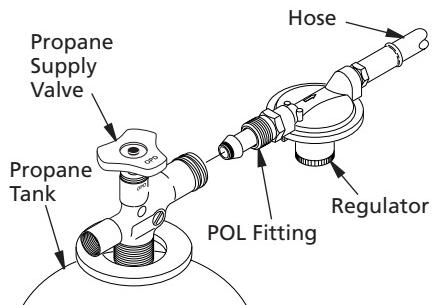


Figure 8 - Regulator Position

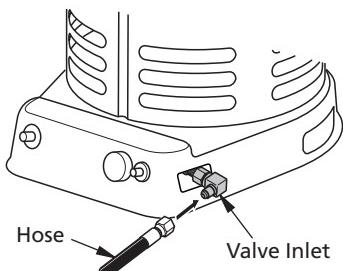


Figure 9 - Hose and Valve Inlet (200,000 Btu Model Shown)

# Dayton® Propane Gas Convection Construction Heater

## Operating Instructions

### **⚠ WARNING**

**Review and understand the warnings in the General Safety Information section on page 2. They are needed to safely operate this heater. Follow all local codes when using this heater.**

### **(6BY71) 25,000 BTU HEATER**

#### **TO START HEATER**

1. Follow all installation, ventilation, and safety information.
2. Locate heater on stable and level surface. Make sure strong drafts do not blow on heater.
3. Open propane supply valve on propane tank(s) slowly.
4. Turn the heater regulator knob clockwise to the "HI" position.
5. Push in and hold automatic control valve button (See Figure 7, page 7). Push and release piezo ignitor button. Keep pushing piezo ignitor button until the burner lights. Hold control knob down for a maximum of 10 seconds while attempting ignition. If heater does not light, release control knob and wait 30 seconds. Repeat step 5 to start heater. **NOTE:** Keep hands and face away from outlet (around top of shell) of heater while attempting to start heater. After ignition, hold control knob down for approximately 30 seconds. This activates the automatic control system.

6. If burner will not light after repeated tries, do not attempt to repair heater. Contact a qualified service technician.
7. When burner remains lit, you can turn the heater regulator knob counter clockwise to the desired heat setting. If burner goes out, turn off gas. Check fuel supply. If fuel supply is OK, restart heater.

#### **TO STOP HEATER**

1. Tightly close propane supply valve on propane tanks by turning clockwise. Wait 15 minutes for the heater to cool before handling heater.
2. Always remove the gas supply hose from the heater and the propane tank after each use.

#### **TO RESTART HEATER**

1. Wait five minutes after stopping heater.
2. Repeat steps under To Start Heater.

### **(6BY73) 80,000 BTU HEATER**

#### **TO START HEATER**

1. Follow all installation, ventilation and safety information.
2. Locate heater on stable and level surface. Make sure strong drafts do not blow on heater.

3. Make sure unit is turned off by slightly depressing and turning control knob fully clockwise to OFF.

4. Open propane supply valve on propane tank(s) slowly. **NOTE:** If not opened slowly, excess-flow check valve on propane tank may stop gas flow. If this happens, you may hear a click inside the regulator assembly, this is the check valve closing. To reset the excess flow check valve, close propane supply valve and open again slowly.

5. Slightly depress and turn control knob counterclockwise to the LO position (See Figure 10).
6. With the control knob pushed all the way in, press and release the piezo ignitor button. Keep pressing piezo ignitor button until the burner lights. Hold control knob down for a maximum of 15 seconds while attempting ignition. If heater does not ignite, release control knob and wait 3 minutes before attempting reignition.

7. After ignition, hold control knob down for about 30 seconds. This activates the automatic control system.

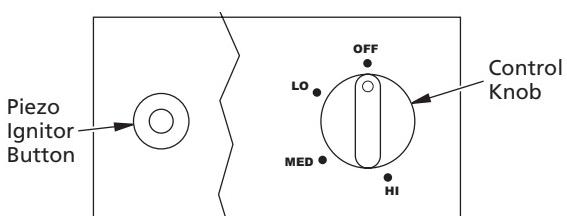


Figure 10 - Control Knob and Piezo Ignitor

# Models 6BY71, 6BY73 and 6BY74

## Operating Instructions (Continued)

8. When burner remains lit, set heater at the desired heat level by slightly depressing the control knob and turning it counterclockwise to the MED or HI settings (See Figure 10, page 8).
9. If burner goes out, turn off gas. Slightly depress and turn control knob fully clockwise to OFF. Check fuel supply. If adequate fuel is available, restart heater beginning at step 1.

### **▲ CAUTION**

**Always run heater with control knob at LO, MED or HI settings. Never set control knob between OFF, LO, MED or HI settings as flashback may occur.**

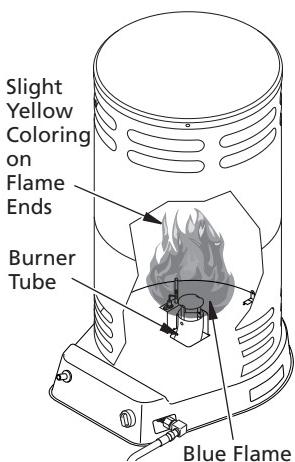


Figure 11 - Correct Flame Pattern at High Position

### FLAME PATTERNS

Figure 11 shows a correct flame pattern. The burner flame is mostly blue with a slight yellow coloring on the ends.

Figure 12 shows an incorrect flame pattern. The flame is mostly yellow. The incorrect flame pattern results from low gas pressure or from flashback.

### **▲ CAUTION**

**Running heater between settings may cause flashback. During flashback, the burner flame is mostly yellow. The flame will burn inside the burner tube, causing a roaring noise. If flashback occurs, turn heater off. After burner tube cools, restart the heater.**

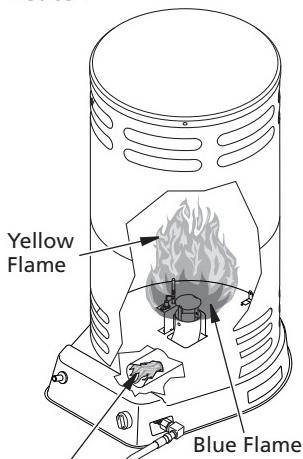


Figure 12 - Incorrect Flame Pattern During Flashback

### TO STOP HEATER

1. Tightly close propane supply valve on propane tank(s). Allow heater to burn remaining fuel in hose.
2. Shut off burner. Do this by pushing in the control knob and turning clockwise to the OFF position.

### TO RESTART HEATER

1. Wait five minutes after stopping heater.
2. Restart heater by following *To Start Heater*, page 8.

### **(6BY74) 200,000 BTU/Hr HEATER**

### TO START HEATER

1. Before lighting pilot fully close the ball valve (turn knob fully clockwise).
2. Fully open the valve on the propane cylinder and wait 15 seconds before proceeding to step 3.
3. Depress red button on safety pilot valve admitting gas to the heater. Then push and release the ignitor button until the pilot lights.
4. When the pilot lights, continue to hold the button depressed for 30 seconds, then release.

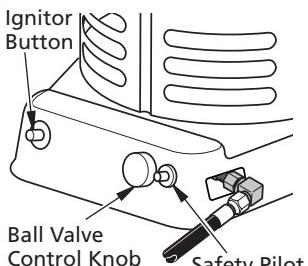


Figure 13 - Starting Heater [200,000 Btu/Hr Model (6BY74)]

# Dayton® Propane Gas Convection Construction Heater

## Operating Instructions (Continued)

5. If pilot goes out, wait 5 minutes and repeat the lighting procedure.
6. When the pilot remains lit, open the ball valve (turn knob counterclockwise) to light main burner. Partially close valve to regulate heat output.

### TO STOP HEATER

1. Securely close valve on the propane cylinder.
2. Continue to operate heater until all fuel in the hose has burned.
3. Fully close the ball valve.

### TO RESTART HEATER

1. Securely close valve at propane cylinder.
2. Wait 5 minutes.
3. Restart heater by following *To Start Heater*, page 9.

## Inspecting Burner

**(6BY71) 25,000 BTU/HR  
MODELS ONLY**

### **WARNING**

**Heater shell, top, and heated air from heater is very hot during operation. Gradually move in closer to heater to observe flame color. Do not touch heater shell or top. Do not get too close to heated air from heater. Severe burns could occur.**

To check for correct burner flame, stand above but to the side of heater and look through the ventilation holes in the top of the heater to see the burner flame. Keep a safe distance from heater to prevent burns. The burner flame should be mostly blue with slight yellow coloring on the ends. If the burner flame is mostly yellow, the primary air openings on the burner tube under the heater base may be blocked (See Figure 14).

1. Stop heater (See *To Stop Heater*, page 8) and let cool.
2. Turn heater over and remove heat shield. Locate the primary air openings on the burner tube (See Figure 14). Remove any debris blocking the primary air openings.
3. Replace heat shield.

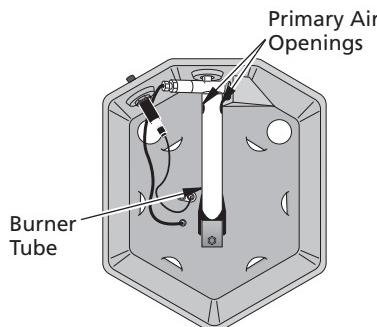


Figure 14 - Bottom View of Heater

# Models 6BY71, 6BY73 and 6BY74

## Storage

### ▲ CAUTION

**Disconnect heater from propane supply tank(s).**

### ▲ CAUTION

**For 80/200,000 Btu/Hr models, be careful not to locate fingers in grooves on side of heater, in vent holes or on bottom of shell when collapsing shell to the down position. Severe cuts may occur. Always wear hand protection when grasping bare metal.**

1. The heater should be inspected before each use and at least annually by a qualified person.
2. Before each use, check the soft "O" ring seat at the bullnose of the POL fitting. If the "O" ring is cut, scuffed or otherwise damaged, replace the POL fitting with part number LPA4020.

3. Turn off the gas at the propane/LP gas supply cylinder(s) when the heater is not in use.

4. Do not store heater while attached to propane tank. Remove the gas supply hose from the propane tank by turning the fuel gas connector nut clockwise.

5. Heater is to be stored indoors in a safe manner. The connection between propane/LP gas supply cylinder(s) and heater must be disconnected, cylinder(s) removed from the heater and stored outdoors in accordance with Chapter 5 of the *Standard for Storage and Handling of Liquefied Petroleum Gases ANSI/NFPA 58*. Follow all local codes.

6. Always store propane tanks outdoors. Never store propane tank in an enclosed area.

7. Place plastic cover caps over brass fittings on inlet connector and hose/regulator assembly.

8. Store in a dry, clean and safe place.

## Cleaning

### ▲ WARNING

**Never attempt to service heater while it is connected to propane supply, operating or hot. Severe burns can occur.**

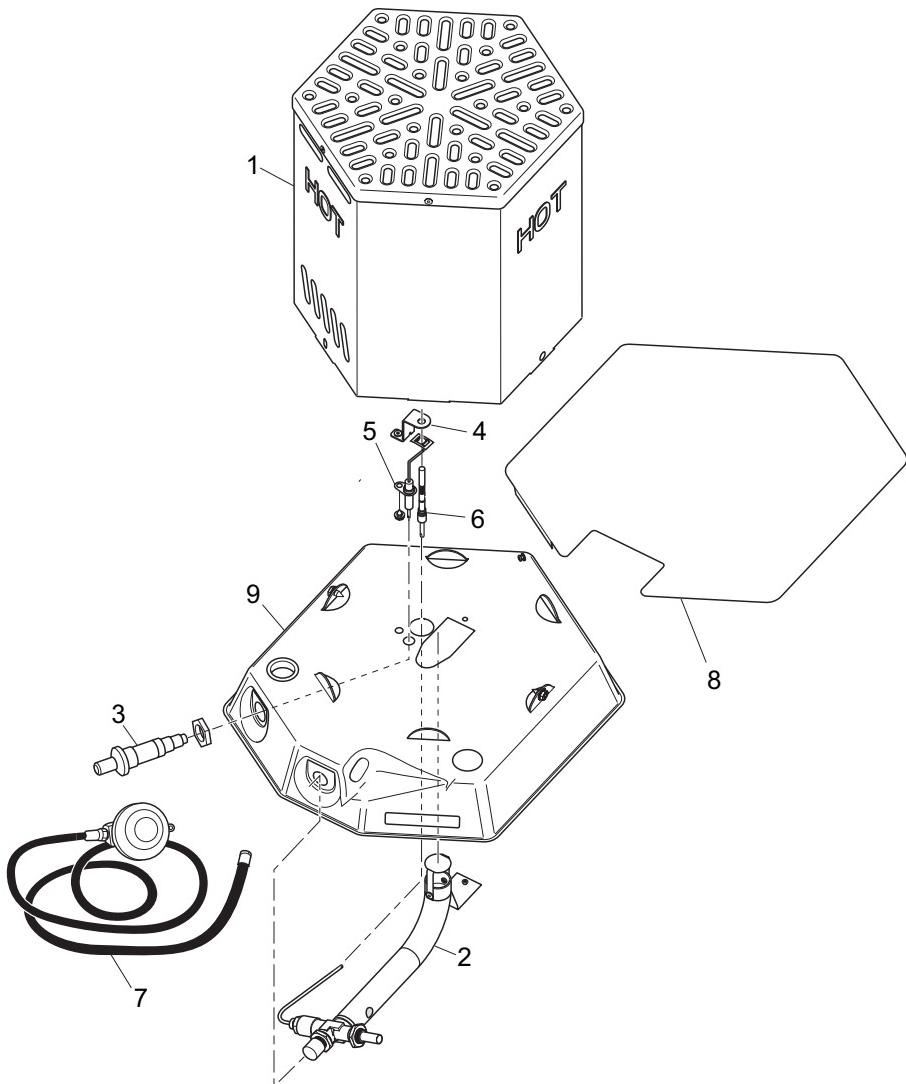
1. Keep heater clean.
2. Inspect heater before each use. Check connections for leaks. Apply mixture of liquid soap and water to connections. Bubbles forming show a leak that must be corrected. Correct all leaks at once.
3. Inspect hose/regulator assembly before each use. If hose is highly worn or cut, replace.
4. Have heater inspected yearly by a qualified service person.

**For Repair Parts, call 1-800-323-0620****24 hours a day - 365 days a year***Please provide following information:*

- Model number
- Serial number (if any)
- Part description and number as shown in parts list

*Address parts correspondence to:*

Grainger Parts  
P.O. Box 3074  
1657 Shermer Road  
Northbrook, IL 60065-3074 U.S.A.

**Figure 15 - Repair Parts Illustration, Model 6BY71**

# Model 6BY71

## Repair Parts List

| Ref.<br>No. | Description | Part Number               | Qty. |
|-------------|-------------|---------------------------|------|
| 1           | 101880-01   | Shell Assembly            | 1    |
| 2           | 101864-01   | Burner Assembly Kit       | 1    |
| 3           | 102445-01   | Piezo Ignitor w/ Nut      | 1    |
| 4           | 103933-01   | Thermocouple Bracket      | 1    |
| 5           | 101878-01   | Electrode Ignitor         | 1    |
| 6           | 099236-01   | Thermocouple Kit          | 1    |
| 7           | LPA 3025    | Hose & Regulator Assembly | 1    |
| 8           | **          | Heat Shield               | 1    |
| 9           | **          | Base                      | 1    |
| Δ           | 111348-14   | Operation/Warning Tag     | 1    |
| Δ           | 112398-03   | Rating Label              | 1    |

(\*\*) Not a field replaceable part.

(Δ) Not Shown.

**For Repair Parts, call 1-800-323-0620****24 hours a day - 365 days a year***Please provide following information:*

- Model number
- Serial number (if any)
- Part description and number as shown in parts list

*Address parts correspondence to:*

Grainger Parts  
P.O. Box 3074  
1657 Shermer Road  
Northbrook, IL 60065-3074 U.S.A.

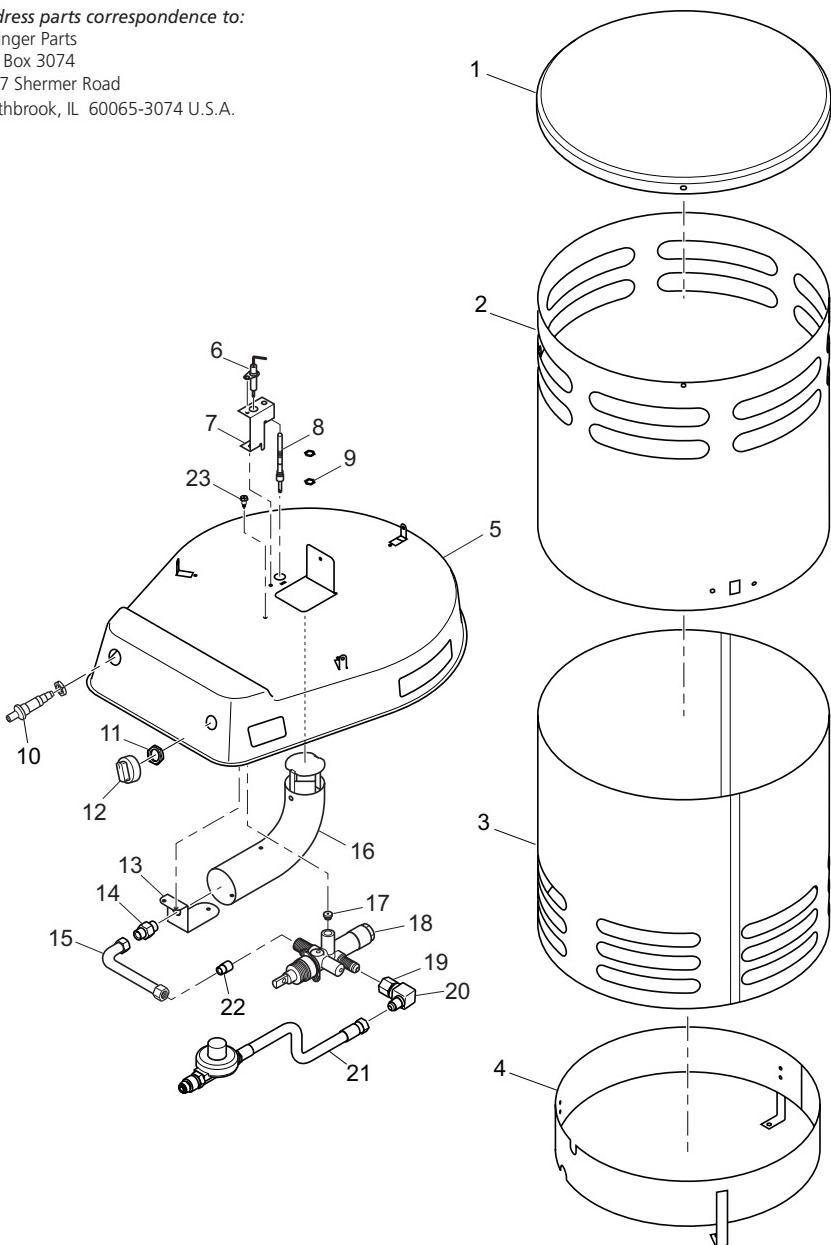


Figure 16 - Repair Parts Illustration, Model 6BY73

# Model 6BY73

## Repair Parts List

| Ref. | No.       | Description                             | Part Number | Qty. |
|------|-----------|-----------------------------------------|-------------|------|
| 1    | 113785-01 | Cap                                     |             | 1    |
| 2    | 113781-01 | Upper Shell                             |             | 1    |
| 3    | 113825-01 | Lower Shell                             |             | 1    |
| 4    | 113778-01 | Ring Shield                             |             | 1    |
| 5    | **        | Base                                    |             | 1    |
| 6    | 116617-01 | Ignitor Electrode                       |             | 1    |
| 7    | 103854-02 | Thermocouple Bracket                    |             | 1    |
| 8    | 113790-01 | Thermocouple                            |             | 1    |
| 9    | 100898-01 | Thin Hex Nut                            |             | 2    |
| 10   | 102445-01 | Piezo Ignitor Kit                       |             | 1    |
| 11   | 098508-01 | Valve Retainer Nut                      |             | 1    |
| 12   | 099393-03 | Control Knob                            |             | 1    |
| 13   | 117166-01 | Nozzle Locator                          |             | 1    |
| 14   | 116556-01 | Nozzle                                  |             | 1    |
| 15   | 116570-01 | Fuel Tube Kit                           |             | 1    |
| 16   | 103929-01 | Burner Tube Kit                         |             | 1    |
| 17   | 099460-01 | Brass Hex Cap                           |             | 1    |
| 18   | 116554-01 | Automatic Valve                         |             | 1    |
| 19   | 117059-01 | Adapter, 1/4 FPT x 1/4 MPT              |             | 1    |
| 20   | 113795-01 | Female Elbow Fitting, 1/4 FPT x 3/8 FLR |             | 1    |
| 21   | 115626-01 | Hose/Regulator Assembly, 10 foot        |             | 1    |
| 22   | 117060-01 | Tube Fitting                            |             | 1    |
| 23   | 099230-02 | Shoulder Screw                          |             | 1    |
| Δ    | 113808-07 | Hang Tag                                |             | 1    |
| Δ    | 113805-04 | Installation Decal                      |             | 1    |
| Δ    | 113802-20 | Model Decal                             |             | 1    |
| Δ    | 116558-02 | Control Position Decal                  |             | 1    |

(\*\*) Not a field replaceable part.

(Δ) Not Shown.

**For Repair Parts, call 1-800-323-0620****24 hours a day - 365 days a year***Please provide following information:*

- Model number
- Serial number (if any)
- Part description and number as shown in parts list

*Address parts correspondence to:*

Grainger Parts  
P.O. Box 3074  
1657 Shermer Road  
Northbrook, IL 60065-3074 U.S.A.

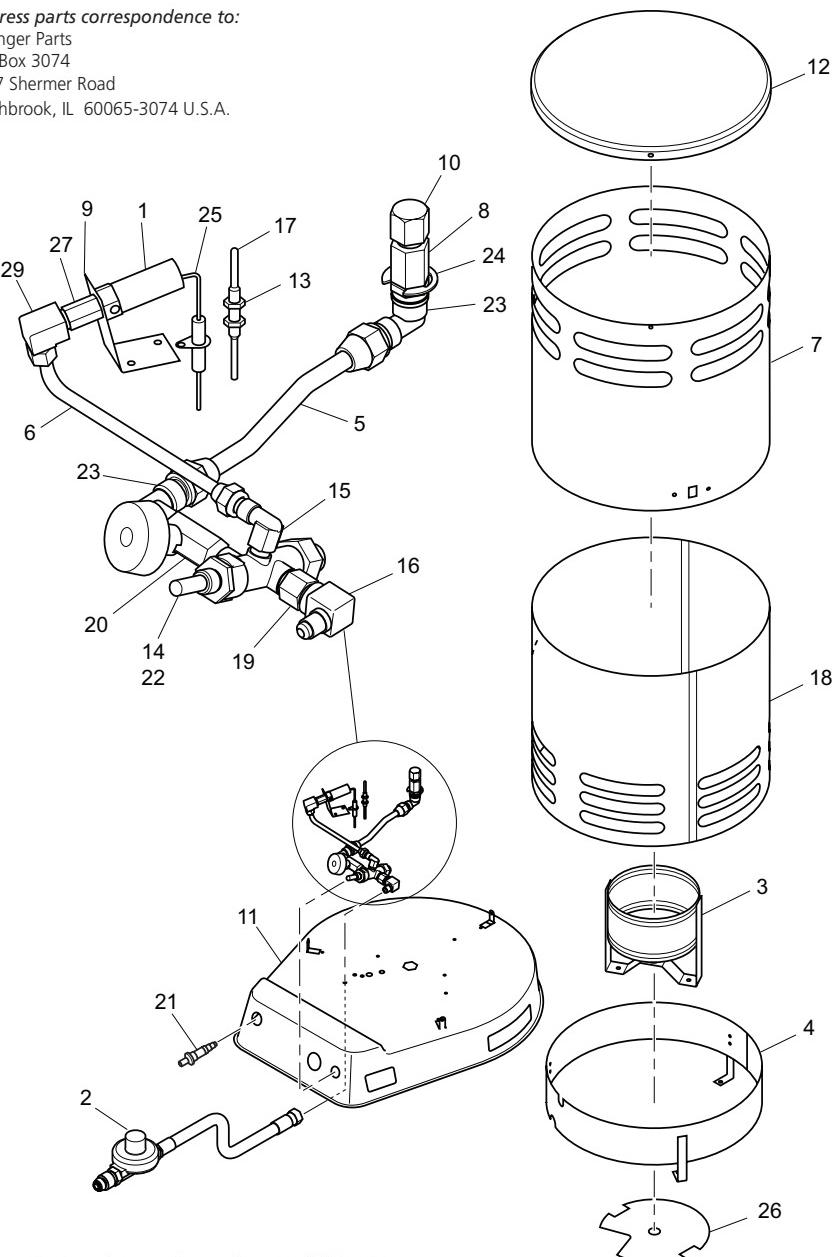


Figure 17 - Repair Parts Illustration, Model 6BY74

# Model 6BY74

## Repair Parts List

| Ref. | No.       | Description                             | Part Number | Qty. |
|------|-----------|-----------------------------------------|-------------|------|
| 1    | 113814-01 | Pilot Assembly                          |             | 1    |
| 2    | 113835-01 | Hose/Regulator Assembly, 10 foot        |             | 1    |
| 3    | 113777-01 | Burner Ring Assembly                    |             | 1    |
| 4    | 113778-01 | Ring Shield                             |             | 1    |
| 5    | 113779-01 | Fuel Tube Assembly                      |             | 1    |
| 6    | 113780-01 | Pilot Tube Assembly                     |             | 1    |
| 7    | 114178-01 | Upper Shell                             |             | 1    |
| 8    | 113782-01 | Orifice Adapter                         |             | 1    |
| 9    | 113783-01 | Bracket, Pilot Mounting                 |             | 1    |
| 10   | 113816-01 | Orifice, LP                             |             | 1    |
| 11   | **        | Base                                    |             | 1    |
| 12   | 113875-01 | Cap                                     |             | 1    |
| 13   | 100898-01 | Thermocouple Nut                        |             | 2    |
| 14   | 113787-01 | Control Valve                           |             | 1    |
| 15   | 113788-01 | Female Elbow Fitting, 1/4 FLR x 1/8 FPT |             | 1    |
| 16   | 113817-01 | Female Elbow Fitting, 1/4 FLR x 1/4 FPT |             | 1    |
| 17   | 113790-01 | Thermocouple                            |             | 1    |
| 18   | 113821-01 | Lower Shell                             |             | 1    |
| 19   | 113812-01 | Fitting, 1/4 FPT x 1/4 MPT              |             | 1    |
| 20   | 113793-01 | Ball Valve                              |             | 1    |
| 21   | 102445-01 | Piezo Ignitor                           |             | 1    |
| 22   | 113794-01 | Valve Nut, 1/2-28                       |             | 1    |
| 23   | 113795-01 | Female Elbow Fitting, 1/4 FPT x 3/8 FLR |             | 2    |
| 24   | 113796-01 | Retaining Ring                          |             | 1    |
| 25   | 113797-01 | Ignitor Electrode                       |             | 1    |
| 26   | 113798-01 | Heat Shield                             |             | 1    |
| 27   | 113820-01 | Pilot Orifice                           |             | 1    |
| 28   | 113800-01 | Washer, Flat                            |             | 1    |
| 29   | 113801-01 | Elbow Fitting, 1/8 FPT x 1/4 CPSN       |             | 1    |
|      | 113809-01 | Ball Valve Knob                         |             | 1    |
|      | 113810-01 | Ball Valve Knob Insert                  |             | 1    |
| Δ    | 113808-01 | Hang Tag                                |             | 1    |
| Δ    | 113805-01 | Installation Decal                      |             | 1    |
| Δ    | 113802-21 | Model Decal                             |             | 1    |

(\*\*) Not a field replaceable part.

(Δ) Not Shown.

# Dayton® Propane Gas Convection Construction Heater

## Troubleshooting Chart



**WARNING** Never attempt to service heater while it is connected to propane supply, operating or hot. Severe burns can occur.

| Symptom                                                                                                       | Possible Cause                                                                                                                                                                                                                                                 | Corrective Action                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Burner fails to light                                                                                         | 1. Propane supply valve closed on propane tank(s)<br>2. Excess flow check valve closed<br>3. Blockage in burner orifice<br>4. Blockage in burner/valve assembly<br>5. Piezo ignition system not sparking<br>6. Pilot orifice clogged (200,000 Btu models only) | 1. Open propane supply valve slowly<br>2. Close propane supply valve on propane tank and reopen slowly<br>3. Replace burner orifice<br>4. Replace burner/valve assembly<br>5. Check to assure ignitor electrode gap is 0.120" (5 mm) for 25,000 Btu heaters and 0.195" (3.04 mm) for 80/200,000 Btu heaters. Check wire lead for damage. Replace piezo ignitor and/or ignitor electrode as necessary<br>6. Clean or replace pilot assembly |
| <b>25/80,000 Btu/Hr Models:</b><br>Burner lights but goes out when automatic control valve button is released | 1. Not enough warm up time<br>2. Low gas pressure                                                                                                                                                                                                              | 1. Relight, hold automatic control valve button in 45 seconds<br>2. Check propane tank(s) for proper gas supply                                                                                                                                                                                                                                                                                                                            |
| <b>200,000 Btu/Hr Models:</b><br>Pilot lights but goes out when automatic control valve button is released    | 3. Thermocouple loose or needs to be replaced<br>4. Automatic control valve needs to be replaced                                                                                                                                                               | 3. Tighten connection or replace thermocouple<br>4. Replace automatic control valve                                                                                                                                                                                                                                                                                                                                                        |
| Burn rate is low                                                                                              | 1. Control valve is on LOW (80/200,000 Btu models only)<br>2. Plugged gas orifice<br>3. Low gas pressure<br>4. Low fuel supply                                                                                                                                 | 1. Turn valve counter clockwise to HIGH<br>2. Replace burner assembly for 25,000 Btu models. Replace gas orifice for 80/200,000 Btu models<br>3. Check gas supply; check regulator output<br>4. Consult propane gas supplier                                                                                                                                                                                                               |

## Notes

# Dayton® Propane Gas Convection Construction Heater

## LIMITED WARRANTY

**DAYTON ONE-YEAR LIMITED WARRANTY.** Dayton Propane Gas Convection Construction Heater, Models covered in this manual, are warranted by Dayton Electric Mfg. Co. (Dayton) to the original user against defects in workmanship or materials under normal use for one year after date of purchase. Any part which is determined to be defective in material or workmanship and returned to an authorized service location, as Dayton designates, shipping costs prepaid, will be, as the exclusive remedy, repaired or replaced at Dayton's option. For limited warranty claim procedures, see PROMPT DISPOSITION below. This limited warranty gives purchasers specific legal rights which vary from jurisdiction to jurisdiction.

**LIMITATION OF LIABILITY.** To the extent allowable under applicable law, Dayton's liability for consequential and incidental damages is expressly disclaimed. Dayton's liability in all events is limited to, and shall not exceed, the purchase price paid.

**WARRANTY DISCLAIMER.** Dayton has made a diligent effort to provide product information and illustrate the product in this literature accurately; however, such information and illustrations are for the sole purpose of identification, and do not express or imply a warranty that the products are merchantable, or fit for a particular purpose, or that the products will necessarily conform to the illustrations or descriptions.

Except as provided below, no warranty or affirmation of fact, expressed or implied, other than as stated in "LIMITED WARRANTY" above is made or authorized by Dayton.

**PRODUCT SUITABILITY.** Many jurisdictions have codes and regulations governing sales, construction, installation, and/or use of products for certain purposes, which may vary from those in neighboring areas. While Dayton attempts to assure that its products comply with such codes, it cannot guarantee compliance, and cannot be responsible for how the product is installed or used. Before purchase and use of a product, review the product applications, and all applicable national and local codes and regulations, and be sure that the product, installation, and use will comply with them.

Certain aspects of disclaimers are not applicable to consumer products; e.g., (a) some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you; (b) also, some jurisdictions do not allow limitations on how long an implied warranty lasts, consequently the above limitation may not apply to you; and (c) by law, during the period of this Limited Warranty, any implied warranties of implied merchantability or fitness for a particular purpose applicable to consumer products purchased by consumers, may not be excluded or otherwise disclaimed.

**PROMPT DISPOSITION.** Dayton will make a good faith effort for prompt correction or other adjustment with respect to any product which proves to be defective within limited warranty. For any product believed to be defective within limited warranty, first write or call dealer from whom product was purchased. Dealer will give additional directions. If unable to resolve satisfactorily, write to Dayton at address below, giving dealer's name, address, date and number of dealer's invoice, and describing the nature of the defect. Title and risk of loss pass to buyer on delivery to common carrier. If product was damaged in transit to you, file claim with carrier.

Manufactured for Dayton Electric Mfg. Co., 5959 W. Howard St., Niles, Illinois 60714 U.S.A.



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